

APR 24 2008

CLAIMS

Claim 1. (Previously amended). An improved vapor generator and control system comprising:

- (1) a vaporization chamber for generating superheated vapor substantially instantaneously from liquid upon its entry therein, said vaporization chamber defining at least one input for input therethrough of liquid for vaporization in said vaporization chamber;
- (2) liquid supply means connectible to said vaporization chamber for supplying liquid thereto through said input; and
- (3) adjustable control means for adjustably controlling ongoing input of liquid from said liquid supply means during ongoing input of said liquid from said liquid supply means into said vaporization chamber, adjustment of liquid input by said adjustable control means being substantially simultaneously reflected in adjustment of output of superheated vapor, whereby output of superheated vapor is highly precisely adjustably controllable while said system is in operation.

Claim 2. (Previously amended). The invention as set forth in Claim 1 wherein said adjustable control means adjustably controls volume of liquid input into said vaporization chamber and thereby adjustably controls volume of output of superheated vapor from said vaporization chamber.

Claim 3. (Original). The invention as set forth in Claim 1 further including at least one output port for output therethrough of superheated vapor from said vaporization chamber, said at least one output port including means connectable to output control means for controlling output from said vaporization chamber.

Claim 4. (Previously amended). The invention as set forth in Claim 1 wherein said adjustable control means for adjustably controlling input of liquid into said vaporization chamber adjustably controls pressure of liquid input into said vaporization chamber and thereby adjustably controls pressure of output from said vaporization chamber.

Claim 5. (Original). The invention as set forth in Claim 3 wherein said output control means controls volume of output from said vaporization chamber.

Claim 6. (Original). The invention as set forth in Claim 3 wherein said output control means comprises at least one valve member.

Claim 7. (Original). The invention as set forth in Claim 3 wherein said output control means includes means for directing in a selected direction superheated vapor from said vaporization chamber.

Claim 8. (Original). The invention as set forth in Claim 7 wherein said output control means comprises at least one valve member.

Claim 9. (Original). The invention as set forth in Claim 7 wherein said output control means is adjustable for directing superheated vapor from said vaporizing chamber in a plurality of selected directions.

Claim 10. (Original). The invention as set forth in Claim 8 wherein said at least one valve member comprises a plurality of valve members at least two of which are adjustable to direct output superheated vapor in substantially perpendicular directions.

Claim 11. (Original). The invention as set forth in Claim 3 wherein said output port is connectable to at least one object to which superheated vapor is to be directed.

Claim 12. (Original). The invention as set forth in Claim 3 wherein said output control means is connectable to at least one object to which superheated vapor is to be directed.

Claim 13. (Original). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which is rough.

Claim 14. (Original). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which defines at least one groove.

Claim 15. (Original). The invention as set forth in Claim 14 further including at least one groove other than the first-mentioned groove and wherein said first-mentioned groove and said second-mentioned groove intersect.

Claim 16. (Original). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which defines a plurality of grooves.

Claim 17. (Original). The invention as set forth in Claim 16 wherein said plurality of grooves vary substantially randomly in depth in a range substantially .030 inch to .050 inch.

Claim 18. (Original). The invention as set forth in Claim 4 wherein said output control means is configured to be hand-held by an operator and to be controlled by said operator.

Claim 19. (Original). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which includes at least one perforation.

Claim 20. (Original). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which includes at least one irregularity.

Claim 21. (Previously amended). A method of fabricating a superheated vapor generator and control system comprising the steps of:

- (a) providing at least two separate parts of a vapor generator;
- (b) fastening said parts together to form a superheated vapor generator defining a vaporization chamber, with at least one input thereto, said superheated vapor generator having capability for substantially instantaneous vaporization of liquid upon entry thereof into said vaporization chamber;

- (c) providing liquid supply means connectible to said input of said vaporization chamber for supplying liquid thereto; and;
- (d) providing adjustable control means for adjustably controlling ongoing input of liquid into said vaporization chamber during said ongoing input of liquid, adjustment of liquid input by said adjustable control means being substantially simultaneously reflected in adjustment of output of superheated vapor thereby providing the capability of highly precisely adjustably controlling output of superheated vapor from said vaporization chamber without requiring said system to cease operation.

Claim 22. (Original). The method as set forth in Claim 21 further including the step of providing control means at the output of said vapor generator.

Claim 23. (Original). The method as set forth in Claim 21 further including the step of defining at least one groove in at least a portion of an inner surface of at least one of said ports.

Claim 24. (Original). The invention as set forth in Claim 21 further including the step of defining a plurality of grooves in at least a portion of an inner surface of at least one of said ports, such that said grooves vary in depth substantially randomly in height and depth in the range of .030 inch to .050 inch.

Claim 25. (Original). The invention as set forth in Claim 22 wherein said output control means are adjustable to control the direction of superheated vapor from said vaporization chamber.

Claim 26. (Previously amended). A method for cleaning selected objects comprising the steps of:

- (a) generating superheated vapor by substantially simultaneously vaporizing liquid into superheated vapor through subjecting said liquid to superheating; and
- (b) providing capability of adjustably controlling volume, pressure or velocity on line of output superheated vapor for a selected object to be cleaned by

adjustably controlling in an ongoing manner volume, pressure or velocity of said liquid upon being subjected to said superheating, wherein said output is substantially instantaneously adjustable upon adjustment of said input thereby providing highly precise control of output of superheated vapor.

Claim 27. (Previously amended). A method for propulsion comprising the steps of:

- (a) generating superheated vapor by substantially instantaneously vaporizing liquid into superheated vapor through subjecting said liquid to superheating; and
- (b) providing the capability of highly precise control of output of superheated vapor substantially continuously to provide propulsion, by adjustable control of volume, pressure or velocity of said liquid, upon being subjected to said superheating, adjustment of said adjustable control being substantially simultaneously reflected in said output of superheated vapor.